USACE Environmental Restoration & Protection Technologies R&D

INITIAL MSC COMMENTS ON

FUTURE DIRECTIONS AND FOCUS AREAS

1 March 2001

Critical and Emerging R&D Needs (MSC/District Perspective)

Water Quality

- Focus WQ Research on a "Watershed" Scale (TMDL's, etc.)

Imperiled Species

- Greater Focus/Emphasis on Restoration Technologies/Cost-Effective Impact Avoidance

Regional Sediment Management

- Techniques to Foster a Systems Approach to Develop Sediment Management Measures in Coastal/Inland Areas
- Tools to Better Formulate/Evaluate Beneficial Use Projects in Context of Regional Sediment Management

Critical and Emerging R&D Needs (MSC/District Perspective)

Ecosystem Restoration/Protection

- Evaluation/Quantification of Economic Benefits (Carbon Sequestration, Water Quality Improvements, Ecotourism/Recreation)
- Improved Methods to Evaluate/Quantify Environmental Outputs and Tradeoffs
- Technologies for Constructing/Managing Wetlands to Achieve WQ Improvement
- Monitoring Design – Adaptive Management – Lessons Learned
- Tools to Evaluate Ecosystem/Stream Corridor Restoration in Urban Settings
- Tools to Evaluate Ecosystem/Stream Corridor Restoration in Arid Settings
- Watershed-Scale Techniques to Guide Establishment/Use of Mitigation Banks
- Greater Focus on Fish Passage Technologies and Implications of Water Control Structures on Fish Movement

Critical and Emerging R&D Needs (MSC/District Perspective)

Watershed Planning

- Greater Emphasis on Watershed-scale, Ecosystem-based Habitat Evaluation Models
- Greater Emphasis on Developing Applications for Remote Sensing/GIS for Broad Watershed Analysis and Planning
- Methods to Establish Migratory Bird Habitat Requirements at a Watershed (and Broader) Scale

Non-Indigenous Species

- Broaden and Expand Focus to Aquatic Species
- Innovative Technologies for Control
- Better Understanding of Implications for Native Species

Critical and Emerging R&D Needs (MSC/District Perspective)

Cumulative Effects

- Better Techniques for Analysis/Quantification of Cumulative Impacts
- Tools/Method to Assess Critical Impact Thresholds in Ecosystems from Cumulative Actions (for CW & Regulatory Application
- Cumulative Effects of Corps Projects on Coastal Ecology

Dredging

- Sediment Fate Models that Are Easily Usable by District Personnel or by Contractors

Abandoned Mine Lands (emerging, but not yet clear what direction it will go)

Critical and Emerging R&D Business Process Issues/Opportunities (MSC/District Perspective)

Corporate Business Process

- Include One or More MSCs Representatives on Murder Boards

Relationships

- Build Relationships/Improve Strategic Communications with MSCs
- Engage MSC Regional Management Boards (RMBs)
- Identify R&D Champions in MSCs and Districts to Serve as a R&D Program Manager
- Review/revitalize the FRG structure and process
- Focus Some Outreach Efforts on Districts and MSCs (Assignments in the Field, Communication Techniques, Tech Transfer and Product Delivery Pathways)

Critical and Emerging R&D Business Process Issues/Opportunities (MSC/District Perspective)

Programs

- Enhance Coordination Across R&D Elements as Watershed/Ecosystem Focus Emerges
- Expand Technical Assistance Programs (Imperiled Species, Non-Indigenous Species, Ecosystem Restoration)
- Expand DOTS-like Training/Workshops to Other Areas
- Foster consistent technological platforms for USACE R&D Tools and Products
- Seek Opportunities for Greater Leveraging of R&D and Tech Transfer with Others (Publishing Joint Technical Guidance Manuals, etc.)
- Fold Water Quality Research into Ecosystem Restoration and Protection Area